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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/171,399	10/16/1998	MASAHIRO SANO	KINOSHITACAS	7987

7590

01/24/2003

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EXAMINER

EINSMANN, MARGARET V

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 01/24/2003

25

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/171,399

Applicant(s)

SANO ET AL.

Examiner

Margaret Einsmann

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 17 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 12,19-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 21 is/are allowed.
- 6) ☐ Claim(s) 12,19-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/17/02 has been entered. Claim 15 was canceled and claim 12 amended by said amendment. The amendment filed 1/20/02 adding claim 21 and canceling claim 13 was entered by way of the advisory action of 2/22/02. Accordingly, the pending claims are claims 12, 19-21. Claim 21 is allowed as it incorporates the limitations of previously allowed claim 13.

The following rejections are maintained as applied in the office action of 5/21/01, paper # 16. Applicant's arguments filed 1/20/02 were not persuasive for the reasons explained in the advisory action of 2/22/02, paper # 20. No new arguments or data has been presented in the amendment of 9/17/02. The amendment incorporating the limitation of claim 15 into claim 12 has not overcome the rejections of record for two reasons:

1. Claim 15 was previously included in all three rejections below and
2. Claim 12, in addition to the specific proteins which had previously been the subject matter of claim 15, includes the alternative of "protein derivatives." Accordingly, the selections in claim 15 have not been limited by the inclusion of the three specific proteins (fibroin, collagen and wool).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shepler et al, US 3,651,210. Surface treatment chemicals, or chemicals that form a coating composition are taught that comprise a reactive synthetic emulsion and a protein, See abstract. Soluble proteins are used, which are selected from vegetable proteins including soya flour, animal proteins such as fish protein and casein. See col 4 lines 48-50. The reactive modifiers are ethlenically unsaturated compounds as listed in col 4 lines 9 et seq. The polymerization catalysts are listed in col 5 lines 40 et seq and include ammonium persulfate, azo-bisisobutyronitrile and cumene peroxide. Noting example 1, the polymerization was carried out with potassium persulfate, which is a peroxide generating compound, as the polymerization initiator. Thus example 1 contains all of the components of instant claims; water soluble protein, reactive modifier and polymerization initiator. the modifiers listed in col 4 contain vinyl groups, amine

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groups and carboxylic groups..The reference does not specifically disclose fibroin, collagen or wool as the protein. However, one skilled in the art would be aware that those are species of the vegetable and animal proteins disclosed in the col 4 lines 48-50. The reference does not give a molecular weight range of the protein. It would have been obvious to the man having skill in the art that this reaction could be used with soluble proteins within the weight range as claimed as it is taught as being useful with all soluble vegetable and animal proteins.

Claims 12,19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denzinger et al., WO95/31576. The US equivalent, 5,714,560, will be cited in the narrative that follows. Chemicals for tanning, that is surface treating chemicals, are formed of a polymerization product of protein and ethlenically unsaturated monomers in the presence of a polymerization initiator. See abstract. Proteins are selected from the group in col 4 lines 28 et seq. Included in the list are wool, collagen and fibrinogen (which forms fibroin) as in instant claim 15. They are converted to soluble form by hydrolysis, acid, enzymes etc. Col 4 lines 50 et seq. This implies that they include, or are exclusively, low molecular weight proteins. The list of polymerization initiators beginning in col 5 line 61 includes peroxides, metal salts and azo compounds. The only limit of the instant claims missing is the claimed molecular weight. It would have been obvious to the man having ordinary skill in the art at the time the invention was made that this disclosure includes low molecular weight proteins as claimed because of the statement in col 4 lines 50 that the proteins are converted to soluble form, and the methods listed result in molecular weight reduction.

Claims 12, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kroner et al., US 5,260,396. Graft polymers of a water soluble protein, including collagen, wool and fibrinogen which have been formed into soluble form by methods including acid hydrolysis or enzyme treatment are reacted with ethlenically unsaturated monomers in the presence of polymerization initiators which are peroxide compounds, azo compounds or heavy metal salts. see cols 3 and 4. The reference differs from the instant claims because it does not give a molecular weight range of the starting protein in the composition and process. It would have been obvious to the skilled artisan that this reference uses low molecular weight polymers since the statement in col 3 lines that the proteins are digested, hydrolyzed etc to form soluble proteins inherently results in molecular weight reduction.

Claim 21 is allowable over the art of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret Einsmann whose telephone number is (703) 308-3826. The examiner can normally be reached on Monday to Thursday and alternate Fridays from 7:00 A.M. to 4:30 P.M. The fax phone number for this Technology Center is (703) 305-3599

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

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MARGARET EINSMANN

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December 26, 2002